



Automated R&D Tax Credit
Software Platform

CASE STUDY



FINANCIAL SERVICES

Founded more than 15 years ago, this mid-sized hedge fund has become one of the most respected names in their industry. The company currently manages approximately \$5 billion in assets primarily for pensions, endowments, and foundations. The company's trading strategies span equities, fixed income, commodities, foreign exchange, credit, and convertible bonds globally.

R&D TAX CREDIT QUALIFICATION FOR SOFTWARE DEVELOPMENT

Several years ago, the decision was made to primarily build vs. buy software systems to provide the firm and their investors with a competitive advantage in the market. In order to optimize trading performance and risk management, the firm relies on their various proprietary software platforms. This unique software platform required extensive research, development and testing to ensure that it could function within the constantly evolving and volatile markets. The advanced trading platform and automated risk systems enables them to trade more profitably, at a lower cost.

The research process at this firm was collaborative between traders, risk management and developers. Research into and improvement in the performance, functionality and reliability of these systems was continuous and iterative. Testing and simulations of software prototypes and complex algorithms was ongoing throughout the life of an R&D project. The company's software developers conducted extensive tests and simulations to verify and validate the software specific to its purpose for gathering and processing data and distributing that data, compiling reports, building a database of information for traders, and enabling real-time trading and risk management.

Given the firm's growth and continued focus on innovation, they now realize an annual credit of about \$250,000.

Larger projects with longer durations represented investments that transform the business while building a non-replicable competitive advantage. Technology enabling business transformation and market-leading product design were often the types of projects undertaken by this company. On average, in the early phases of the project, approximately one-third of the design time goes to initial design and specifications based on requirements, one-third to coding development and unit tests, and one-third to testing and issue resolution. The project team included the CTO, portfolio managers, traders, risk management, software engineers, and QA functions.



The performance-testing environment was especially critical to preparing a software release for production. If the new product was to replace an older version, parallel testing of performance data often was conducted. Verification and validation were iterative experimental protocols to ensure the technology met performance and precision expectations before being released to production and offered to portfolio managers. Even in production and in verification and validation efforts undertaken by traders, any deficiencies were addressed and solutions developed through additional research, rewriting, and retesting.

Risk management systems were also an important part of proprietary software development at the firm. The Risk department was charged with understanding the current positions of the entire firm and their potential impact. The makeup of the various funds led to a highly complex order book, with positions in over 15,000 securities. Advanced models and intellectual property from the risk team was crucial in building out the risk monitoring systems, position reports, and alerts. The advanced models and analytics created by the risk team were generally passed on to developers who automate many of the risk management functions.

Back office systems were also either internally developed or integrated with third party systems to provide for enhanced real-time and efficient reporting that could not be done by off-the-shelf systems. Back office development supported various functions, building out systems and automation, facilitating straight through processing, and other time efficiency initiatives. These teams were responsible for development related projects from non-trading functions. They helped service compliance, tax and operations.

RESULTS SPEAK FOR THEMSELVES

Total combined federal and state tax credits for this hedge fund were \$225,000 for the first year. Given the firm's growth and continued focus on innovation, they now realize an annual credit of about \$250,000.